

Considerations of appropriate level of conservation and management for sculpins in the BSAI and GOA FMPs

Discussion Paper

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Introduction

- In December 2018, the Council requested that staff develop a discussion paper to:
 - evaluate the appropriate level of conservation and management required for sculpins in the BSAI and GOA consistent with MSA and NS guidelines,
 - assess whether the best available scientific information indicates sculpins could be managed as non-target ecosystem component species, and
 - assess regulations to:
 - Prohibit directed fishing for sculpins,
 - Establish maximum retainable amounts for sculpins, and
 - Require recordkeeping and reporting if sculpins were reclassified as non-target species.

Target vs Non-Target species

- Target
 - Require conservation and management
- Non-target
 - Require conservation and management
- Non-target ecosystem component
 - Do not require conservation and management

Sculpins Life History and Ecosystem Role (Section 2.1)

- Sculpins are relatively small, demersal, teleost fishes with modified pectoral fins that allow them to grip the substrate.
- 48 species have been identified in the BSAI and GOA (Table 1).
- They are distributed throughout the BSAI and GOA where they occupy benthic habitats along continental shelf and slope areas.
- Sculpins range in size from <10cm to 80 cm.
- They are benthic predators of the shelf and slope ecosystems.

Sculpins Life History and Ecosystem Role (Section 2.1)

- Little is known about the stock structure of sculpin species and little research has been done on sculpins in general.
- Within each sculpin species, life history characteristics point to the existence of local population structures.
- Length measurements of the most abundant sculpin species have been stable in both the BSAI and GOA with no strong trends apparent.
- Trawl survey biomass estimates in the BSAI and GOA also fairly stable.

Table 2: Biomass, OFL, ABC, TAC, Catch

	Bering Sea and Aleutian Islands							Gulf of Alaska						
Year	Biomass (mt)	OFL (mt)	ABC (mt)	TAC (mt)	Catch (mt)	Catch / Biomass	Year	Biomass (mt)	OFL(mt)	ABC(mt)	TAC (mt)	Catch (mt)	Catch / Biomass	
2011	199,348	58,300	43,700	5,200	5,377	0.03	2011	33,729	7,328	5,496	5,496	774	0.02	
2012	183,942	58,300	43,700	5,200	5,798	0.03	2012	34,112	7,641	5,731	5,731	794	0.02	
2013	171,523	56,400	42,300	5,600	5,864	0.03	2013	34,500	7,641	5,731	5,731	1,964	0.06	
2014	189,359	56,400	42,300	5,600	4,902	0.03	2014	35,155	7,448	5,569	5,569	1,182	0.03	
2015	186,386	52,365	39,725	4,700	5,003	0.03	2015	35,823	7,448	5,569	5,569	1,018	0.03	
2016	199,937	52,365	39,725	4,500	4,911	0.02	2016	34,340	7,338	5,591	5,591	1,330	0.04	
2017	188,656	56,582	42,387	4,500	5,338	0.03	2017	32,918	7,338	5,591	5,591	1,316	0.04	
2018	188,656	53,201	39,995	5,000	5,105	0.03	2018	34,943	6,958	5,301	5,301	610	0.02	
2019	188,656	53,201	39,995	5,000	771*	0.00	2019	33,124	6,958	5,301	5,301	43*	0.00	

Targeting, Catch, and Retention (Section 2.2)

- Before 2010, sculpins were managed as part of the “other species complex” but have since been managed as an independent complex with their own harvest specifications.
- Tier 5 complex
- No directed fishery for sculpins – taken only as bycatch.

Table 6: Total catch in metric tons of sculpin complex and portion retained 2003-2018

	BSAI			GOA	
Year	Sculpin catch (mt)	% sculpins retained		Sculpin catch (mt)	% sculpins retained
2003	5,614	1%		629	7%
2004	6,020	1%		701	9%
2005	5,642	2%		626	16%
2006	5,733	3%		583	16%
2007	7,702	5%		960	19%
2008	7,368	6%		1,925	14%
2009	7,036	9%		1,374	18%
2010	5,624	4%		911	12%
2011	5,373	5%		763	10%
2012	5,798	5%		795	13%
2013	5,828	3%		1,966	1%
2014	4,865	3%		1,187	3%
2015	4,980	2%		1,016	1%
2016	4,410	2%		1,330	3%
2017	5,338	1%		1,316	1%
2018	5,105	2%		610	2%
2019	771	2%		43	3%

Table 7: Ex vessel price per pound of CV caught sculpins 2006-2017

Year	Ex vessel price per pound of CV sculpins (not including fish meal) (\$)		Ex vessel price per pound of CV sculpins that was processed into fish meal (\$)	
	BSAI	GOA	BSAI	GOA
2006	0.05	0.07	0.02	0.02
2007	0.07	0.07	0.02	0.02
2008	0.00	0.00	0.01	0.02
2009	0.07	0.07	0.01	0.02
2010	0.00	0.00	0.02	0.02
2011	0.00	0.07	0.02	0.02
2012	0.07	0.07	0.02	0.02
2013	0.00	0.00	0.02	0.02
2014	0.15	0.15	0.02	0.00
2015	0.09	0.00	0.02	0.02
2016	0.05	0.04	0.02	0.00
2017	0.02	0.00	0.02	0.00

Conservation and Management

- Magnuson-Stevens Act requires a council to prepare a FMP for each fishery under its authority that requires conservation and management.
- Section 3(5) of the MSA defines “conservation and management.”

National Standard Guidelines 10 Factors

1. The stock is an important component of the marine environment.
2. The stock is caught in the fishery.
3. Whether a FMP can improve or maintain the condition of the stock.
4. The stock is a target of the fishery.
5. The stock is important to commercial, recreational, or subsistence
6. The fishery is important to the Nation or regional economy.
7. The need to resolve competing interests and conflicts
8. The economic condition of a fishery
9. The needs of a developing fishery
10. The extent to which a fishery is already adequately managed

Ecosystem Component Requirements Applied to Sculpins

NS Factor	Relevance to sculpins in Alaska
i. The stock is an important component of the marine environment.	<ul style="list-style-type: none"> • Sculpins are predators of the shelf and slope ecosystems in the BSAI and GOA (section 2.1.1).
ii. The stock is caught by the fishery.	<ul style="list-style-type: none"> • Sculpins are caught incidentally to other groundfish fisheries in the BSAI and GOA (section 2.2).
iii. Whether a FMP can improve or maintain the condition of the stock	<ul style="list-style-type: none"> • Sculpins are not experiencing overfishing and fishing related mortality is low in both the BSAI and GOA (Table 2). • There is no directed fishery for sculpins in either the BSAI or GOA. • In the absence of a directed fishery, sculpins are very unlikely to become overfished in either the BSAI or GOA.

Ecosystem Component Requirements Applied to Sculpins

NS Factor	Relevance to sculpins in Alaska
iv. The stock is a target of a fishery.	<ul style="list-style-type: none"> There is no directed fishery for sculpins in either the BSAI or GOA.
v. The stock is important to commercial, recreational, or subsistence users.	<ul style="list-style-type: none"> Sculpins are not considered important to commercial, recreational, or subsistence users in either the BSAI or GOA; however, there is some limited ongoing use of sculpins for fish meal (section 2.3).
vi. The fishery is important to the Nation or to the regional economy.	<ul style="list-style-type: none"> Sculpins have limited economic value relative to other BSAI and GOA groundfish, and are not considered important to the National or regional economy (Table 7).
vii. The need to resolve competing interests and conflicts among user groups, and whether a FMP can further that resolution.	<ul style="list-style-type: none"> There is no directed fishery for sculpins in either the BSAI or GOA, no allocations to user groups, and no competing interests or conflicts among user groups relative to sculpins.

Ecosystem Component Requirements Applied to Sculpins

NS Factor	Relevance to sculpins in Alaska
<p>viii. The economic condition of a fishery and whether a FMP can produce more efficient utilization.</p>	<ul style="list-style-type: none"> • Sculpins have limited economic value relative to other BSAI and GOA groundfish (Table 7). • Retention of sculpins has varied, but is currently less than 5% in both the BSAI and GOA.
<p>ix. The needs of a developing fishery, and whether a FMP can produce more efficient utilization.</p>	<ul style="list-style-type: none"> • There is currently no developing fishery for sculpins in either the BSAI or GOA. • Existing FMPs could adequately manage any new fishery.
<p>x. The extent to which the fishery is already adequately managed by states, by state/Federal programs, or by Federal regulations pursuant to other FMPs or international commissions, or by industry self-regulation, consistent with the requirements of the Magnuson-Stevens Act and other applicable law.</p>	<ul style="list-style-type: none"> • Currently, there is no directed fishery for sculpins in either the BSAI or GOA in state or Federal waters.

Management Considerations (Section 4)

- Prohibiting directed fishing for sculpins
- Maximum retainable amounts
- Recordkeeping and reporting
- Enforcement and Observer Program

Table 9: Summary of Management Measures

Management Measure	Target Species	Non-Target Species	Non-Target EC
Prohibit Directed Fishing	Sculpins would remain at status quo as target species, despite no directing fishing.	Directed fishing would be prohibited in regulations at 50 CFR 679.20 and 679.22.	Directed fishing would be prohibited in regulations at 50 CFR 679.20 and 679.22.
Retention and Sale	Retention and sale allowed, subject to MRA.	Retention and sale allowed, subject to MRA.	Retention and sale allowed, subject to MRA.
Harvest Specifications	OFL, ABC, and TAC required.	OFL and ABC required. TAC not required.	OFL, ABC, and TAC not required.
Incidental Catch Management	MRAs for sculpins in the BSAI are 20% for most basis species, except for arrowtooth founder (3%) and Kamchatka flounder (3%), and 20% for all basis species in the GOA.	Sculpins would be moved to incidental catch, and MRAs could be maintained or changed.	Sculpins would be moved to incidental catch, and MRAs could be maintained or changed.
Recordkeeping and Reporting	Require catch reporting.	Require catch reporting.	Require catch reporting.

Next Steps

